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ABSTRACT

The purpose of this report is to identify some of the basic practices to which school administrators and others having responsibilities in this area should adhere. Recommendations are provided for administrators, school transportation supervisors, drivers, passengers, and maintenance and service personnel. In addition, guidelines on selected operating procedures and suggestions on evaluation are included. A related document is EA 004 333. (Author)

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STANDARDS FOR SCHOOL BUS OPERATION

1970 Revised Edition

Recommendations of

NATIONAL CONFERENCE ON SCHOOL TRANSPORTATION

NEA Education Center, Washington, D. C. May 4-7, 1970

Co-sponsored by:

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(The 1970 National Conference on School Transportation also adopted recommendations published under the title "Minimum Standards for School Buses".)

EA 004 334

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The 1970 National Conference on School Transportation adopted recommendations designed to further the safety and efficiency with which pupils are transported. The publications are:

(a) Minimum Standards for School Buses, 1970 Revised Edition
(b) Standards for School Bus Operation

These publications are available from State of Florida, Department of Education, Floyd T. Christian, Commissioner of Education, Bureau of Curriculum and Instruction, Publications and Textbook Services, Tallahassee, Florida 32304. Price information available upon request.

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FOREWORD

The purpose of this report is to recommend standards for school bus operation for application by those who are associated with this vital education function.

A successful school transportation operation depends upon a high quality of performance by all those who are associated with it. This includes the administrator, the transportation supervisor, contractors, vehicle maintenance and service personnel, teachers, passengers, the public, and, most importantly, the driver of the school bus.

Following national conferences in 1939 and 1945 in which major attention was given to minimum standards for school buses, the 1949 National Conference on School Transportation had as one of its primary purposes the development of recommendations concerning school bus drivers. These were published under the title Standards and Training Programs for School Bus Drivers: Recommended Minimum Practices. This title was retained for the report of the 1964 National Conference on School Transportation. The 1970 National Conference on School Transportation was expanded to cover areas not treated in earlier conferences. Recommendations are provided for administrators, school transportation supervisors, drivers, passengers, and maintenance and service personnel. In addition, recommendations on selected operating procedures are included, as are suggestions on evaluation.

As school transportation expands its operations and as the driving environment becomes ever more complex, the challenge to school administrators is to establish and maintain increasingly high standards of performance for all elements of the school transportation system.

Few of the practices recommended in this report are discussed in detail. The committee which developed the report was concerned with identifying some of the basic practices to which school administrators and others having responsibilities in this area should adhere. In some instances, detailed information is provided in the Appendices.

James A. Sensenbaugh, Conference Chairman
and State Superintendent of Schools
Baltimore, Maryland

I. ADMINISTRATORS

A. The chief state school officer should be responsible for the following tasks or functions:

1. Provide leadership in the development of a comprehensive school transportation program for application state-wide.

2. Develop and operate a cost accounting system for all expenditures in the area of school transportation.

3. Develop and implement a clear, concise school transportation policy.

4. Appoint a state supervisor of school transportation and provide him with the staff and other resources required to perform optimally on the job.

5. Support the development of a manual or handbook for the use of local school transportation supervisors and local school administrators. This manual should provide detailed instructions for implementing the state's school transportation policy.

6. Encourage institutions of higher learning throughout the state to provide undergraduate and graduate-level courses in school transportation. Graduate instruction in school transportation should be acceptable for certification purposes for both teachers and school administrators.

7. Support the development of a manual or handbook for school bus drivers. This manual should be definitive enough to serve as a text for the school bus driver during his pre-service and his in-service instruction. A copy of this manual or handbook should be provided to each driver upon his acceptance as a school bus driver candidate.

8. Develop and sponsor institutes and workshops on school transportation for local school administrators.

9. Develop a manual or handbook for maintenance and service personnel who are employed in maintenance facilities operated by county or other local school systems.

10. Develop and implement a state-wide management information system to accommodate pupil transportation statistics, such as data on costs associated with the school transportation operation, accident and injury data, and information on manpower availability.

11. Develop and sponsor workshops for school bus maintenance personnel.

12. Develop curricula for student passengers.

B. Administrators at the local level should perform the following tasks or functions:

1. Implement state school transportation policy.

2. Become involved in the school transportation operation within their jurisdiction. Involvement should include participation in training programs for school transportation supervisors, school bus drivers, and maintenance and service personnel; actual observation of school bus routes by riding the buses; supervision of loading and unloading zones at or near the school; participation in investigations of accidents and other transportation malfunctions, and participation in evaluations of school transportation operations. Suggested action to be taken during and following observation of a school bus route appears at Appendix A.

3. Encourage classroom teachers to become more involved in the school transportation operation by performing many of the duties identified in paragraph B 2 above.

4. Provide resource material and encourage teachers in the elementary grades to include instruction in passenger safety in the school curriculum.

5. Provide for close and continuous supervision of the unloading and loading zones on or near the school plant, and of the emergency drills.

6. Provide supervision for those students whose bus schedules require them to arrive at school before classes begin and remain after classes terminate.

7. Promote public understanding of, and support for, the local school system's school transportation program.

8. Assist in development of local school transportation policies and regulations.

II. SCHOOL TRANSPORTATION SUPERVISOR

A. State school transportation supervisor.

1. Job Description. The state school transportation supervisor acts in a special staff capacity to the chief state school officer. Specific duties include, but are not limited to the following:

   a. Assisting the chief state school officer in implementing basic school transportation policy throughout the state.

   b. Utilizing the staff of the state department of education to help to manage the state's school transportation system. This includes the ability to plan and budget for the transportation operation, and to forecast requirements.

   c. Helping to supervise the preparation of manuals or handbooks for local school transportation supervisors, for school bus drivers, for maintenance and service personnel, and for school bus contractors.

   d. Providing assistance to local school administrators upon request, and direction as may be necessary.

   e. Assisting in the evaluation of the state and the local school district school transportation operations and in the redesign or redirection of these operations as appropriate.

   f. Planning and directing inservice training programs for school bus drivers.

   g. Directing local school transportation supervisors in planning workshops for passenger safety.

   h. Requiring and maintaining appropriate reports and records.

B. Local school transportation supervisor.

1. Job Description. The local school transportation supervisor, in contrast to his state-level counterpart, is concerned with assisting the local school administrator to implement state school transportation policy. Specific duties of the local school transportation supervisor include, but are not limited to, the following:

   a. Planning, budgeting, and forecasting for the school transportation operation.

b. Assist school officials in school site selection and plant planning.

c. Chassis and body procurement (when this is not done at the state level).

d. Developing and implementing a plan for maintenance of equipment.

e. Recruiting, selecting, instructing, and supervising drivers and other transportation department personnel.

f. Routing and scheduling of buses.

g. Assisting in the development and implementation of instructional programs for school administrators, teachers, and students.

h. Working with administrators, teachers, drivers, maintenance and service personnel, students, parents, and with various public and private agencies to improve the quality of the school transportation operation.

i. Investigating accidents, road failures, and other problems associated with the school transportation operation.

j. Keeping records and preparing reports.

k. Developing and supervising the implementation of an on-going evaluation plan for the school transportation operation.

2. Qualifications of the School Transportation Supervisor. Any individual functioning as a supervisor in this vital area should have a thorough understanding of the educational process and the role of school transportation in this process. Previous experience as a teacher or school administrator is desirable. Additional qualifications recommended include:

   a. A satisfactory driving record as revealed through checks with the National Driver Register Service* and the State Department of Motor Vehicles.

   b. A satisfactory work history and a record free of criminal offenses. (The same types of checks should be made of the supervisor of the school transportation operation as are

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*Conducted by U.S. Department of Transportation, Washington, D.C. 20591

made of the applicant who seeks employment as a driver of a school bus.) Suggestions as to how this information may be obtained appear in Section III.

c. An undergraduate degree in one or another of the following major fields of study: education, business administration, management, or transportation.

d. An ability to manage personnel and resources to achieve a desired objective.

e. An ability to work effectively with a broad range of individuals and organizations.

3. Special Instruction for the School Transportation Supervisor. Despite the nature and extent of his education and experience, the school transportation supervisor should receive formal instruction in school transportation management. This training should include classroom work and field experience which would permit him to accomplish duties such as those identified in paragraph II B above.

III. DRIVER

1. Job Description. The job description for the school bus driver will vary from state to state, and occasionally within a single state. However, there are certain duties that all school bus drivers are required to perform. These duties may include:

a. Operating the vehicle in a safe and efficient manner.

b. Conducting pre-trip and post-trip checks on the vehicle and its special equipment.

c. Establishing and maintaining rapport with passengers.

d. Maintaining discipline among passengers.

e. Meeting emergency situations in accordance with standing operating procedures.

f. Communicating effectively with school staff.

g. Maintaining effective contact with the public.

h. Completing required reports in the prescribed manner.

i. Satisfactorily completing required training programs.

2. Qualifications of the School Bus Driver. Procedures frequently used when selecting school bus drivers include:

a. Completion of an application form on which information of a personal and occupational history is requested. The applicant's work history normally is checked by asking for information relating to previous employment on the application form. Here, it is important to know why he changed jobs as well as the number of times he has changed employers. Reasons given for leaving may be checked either by phone call or letter to an employer listed at the same time that his comments on the suitability of the individual for the position of school bus driver are invited. Personal references may also be checked by phone or mail. It is important that the individual given as a reference know the specific nature of the position for which the applicant seeks employment. (An example of a form that the school district may want to use to seek personal and work history information appears at Appendix B.)

b. Check of applicant's past driving record. Checks of the National Driver Register Service and of the files of the State Motor Vehicle Department are considered essential in the case of the individual who is applying for a position as a school bus driver. The purpose of the National Driver Service is to provide a central driver-records identification facility containing the names of drivers whose licenses have been denied, suspended, or revoked for any reason other than a denial or withdrawal of a license for less than six (6) months due to a series of non-moving violations. It was established by the United States Congress to assist each state in locating all the records available on these drivers, regardless of where in the United States they may have established these records. Requests for searches through the National Driver Register Service should be made to the state driver license administrator. The check with the state motor vehicle department will reveal any highway crashes or moving traffic violations in which the applicant has been involved but which were not of a type to cause him to have his license suspended or revoked. (An example of a form that the school district may want to use to obtain this information appears at Appendix C.)

NOTE: The applicant should be told that these checks will be made before he is asked to complete the application for employment.

c. A check to determine if an applicant has a record of criminal offenses. At the time of application, fingerprints could be obtained and forwarded to the state police with a request that a state and federal check for criminal offenses be made.

d. One or more personal interviews. A properly conducted interview can be one of the most important of the selection procedures. The interview should be conducted in private and in a comfortable environment. The interview should be structured. It should not be simply a discussion with the individual, nor should it cover those items on which information has already been obtained by other means, unless clarification is needed. (An example of a form that the school district may want to use when conducting interviews with driver applicants appears at Appendix D.)

e. Physical examination. Some measure of the applicant's health may be obtained by a physical examination which should be conducted by a medical doctor approved by the local school system. During this examination, some indication may also be obtained about the applicant's emotional stability for the position. An essential part of the physical examination is a chest X-ray or other specific test for tuberculosis. The examining physician should be alerted to the type of position for which the applicant is being considered, since this may make a difference as to whether the applicant is considered to be in satisfactory condition. For example, a certain type of physical condition or medical history may be less important for a custodian than for a school bus driver. The physical examination should be conducted each year and at such other times as the school superintendent may deem necessary. The employment agreement should include a provision for a complete physical examination at the employer's expense at the discretion of the school superintendent. (An example of a form that the school district may want to use appears at Appendix E.)

f. Tests of driving knowledge and skill. Tests of recommended driving practices and tests of road performance should be administered, even though they will vary among states and may vary within the same state. As a minimum, the road performance test should be conducted over a pre-determined course, should take at least 20 minutes, and should satisfy the examiner that the applicant can perform the various maneuvers required of the driver of a school bus.

g. Educational attainment. An applicant for position as a school bus driver should demonstrate the ability to follow detailed written instructions and the ability to record and report data accurately and in terms of specific instructions.

3. Instructional Program for School Bus Drivers. The information in this section applies to new school bus drivers, i.e., drivers who have not previously driven school buses with student passengers. There will be times when drivers with previous experience in other communities and other states will seek employment. In these instances, it will be necessary for the school transportation supervisor to assess the applicant's prior experience with regard to quality and recency before determining the type and extent of the training the applicant will be required to complete.

The instructional program should consist of both classroom instruction and practice driving instruction in the type of vehicle the applicant will most frequently operate. Successful completion of the instructional program should culminate in the applicant being recommended for a school bus driver's license and completion of the employment agreement with the school system.

Each state should develop and make available to each school bus driver a driver's manual or handbook at the time he is hired. (See Section I.) This manual should be developed especially for school bus drivers and should include, but should not necessarily be limited to, the following subjects, all of which the driver should be familiar with before he transports students:

a. The transportation policy of the school system and its implementing rules and procedures.

b. Motor vehicle rules and regulations as these apply to school bus operation.

c. Effective methods for controlling passengers, with special attention to the young, the emotionally disturbed, the handicapped, disciplinary cases, and emergency situations.

d. Procedures for relating to the public and to other highway users.

e. Procedures for relating to others on the school staff.

f. Vehicle operation and maintenance.

g. How to handle the vehicle under specific types of emergency situations.

h. Information on inclement weather conditions and how to drive during them.

i. Procedure following involvement in, or approaching, a highway crash.

j. How driver performance is to be evaluated.

This school bus driver manual should be used as a text during pre-service and in-service instruction for the driver. Local school systems should supplement the state-produced manual with information on local policy and practices that may vary from, but should not conflict with, state-level requirements.

Practice driving instruction should be given in the same type and size of bus which the driver will be operating. When the driver will be expected to operate more than one size and type of vehicle, instruction should be given in the specific handling characteristics of each different vehicle. The practice driving phase of the school bus driver applicant's instruction should include, but should not necessarily be limited to, the following:

a. Familiarization with the bus and its equipment.

b. How to conduct emergency drills.

c. How to use and when to use the special warning and stop lamps and other traffic control devices with which the bus is equipped, e.g., alternately flashing red lamps, alternately flashing amber warning lamps, stop arms.

d. How and where to make stops along the roadway.

e. How to cooperate with other highway users and not impede the traffic flow unnecessarily.

f. How to enter and leave the loading dock or zone at the school plant.

g. How to enter and leave the bus garage or other storage area.

h. How to diagnose mechanical difficulties on the school bus.

i. Post-accident and post-road failure procedures.

j. How to perform pre- and post-trip inspections and procedures.

4. School Bus Driver Performance Criteria. School bus drivers should be evaluated at regular intervals. This can be done by administering written tests, by observing the driver during a road performance check, by riding with him to observe how he accomplishes his tasks, by trailing the bus frequently, and by reviewing reports of complaints and commendations of passengers, teachers, school officials, police, and others.

IV. STUDENT PASSENGERS

1. Curriculum Development. With more than one out of three students enrolled in school riding a school bus, it is important that they and others who ride school buses be taught effective pedestrian and passenger practices. Each passenger should receive an orientation on effective passenger practices during the first week of school. The program of instruction presented to student passengers should be developed cooperatively by school administrators, the school transportation supervisor, curriculum specialists, teachers, parents, and students. Parent-teacher associations, and organizations such as the National Safety Council and the National Education Association can also provide information on suggested content for the instructional program.

   The information presented, and the way it is presented, vary according to the grade level at which the information is introduced.

   Following are some examples of information which should be presented:

   a. Safe pedestrian practices on the way to and from the bus stop, including the desirability of wearing something light-colored or preferably an item of reflective clothing during those seasons when it is dark while walking to or from the bus.

   b. How and where to wait for the bus at the bus stop.

   c. What to do if the bus does not arrive.

   d. How to enter and leave the bus.

   e. When and how to use the emergency exit. Specific instruction should be given not less than twice each year on the use of the emergency exit. (See Appendix F.)

f. How to cooperate with the driver and thus be an effective passenger.

g. How to cross the highway before boarding and after leaving the bus, if this is necessary.

h. What to do in the event of an accident, road failure, or other mishap.*

2. Student Management. Student management has as its objective the securing of desirable behavior on the part of all students riding the bus. The school bus is an extension of the classroom. In fact, it has been referred to as a "classroom on wheels," and properly so. The school day begins when the student enters the bus and the school day ends when he leaves the bus. Although the prime responsibility for a pupil's conduct rests with the administrator of the school in which the student is enrolled, the school bus driver is responsible for the health, safety, and welfare of each passenger while in transit. Thus, the school bus driver has the same type of responsibility for the student as the classroom teacher. And, since the driver is liable for negligence, he should be permitted to recommend those actions which will result in improved safety for the passengers, himself, the vehicle, and other highway users. It is important that these concepts be communicated effectively to school administrators, to parents, and to student passengers.

School systems should promulgate, communicate, and enforce procedures to be followed by students when they are riding the bus.

Some school systems have reported success in improving student management through the use of student partols.** In some instances, school systems have reported favorable experience with the use of adult monitors in school buses.

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*For additional information on curriculum development, see "School Bus Safety: Educating Pupil Passengers" (Safety Education Data Sheet No. 63), available from National Safety Council, Chicago, Illinois 60611.

**See: "Improving Student Patrols: A Guide" (1968), available from National Education Association, Washington, D.C. 20036.

If either student patrols or adult monitors are used, it is essential that they be instructed thoroughly in their duties and responsbilities. Most importantly, student patrol members, adult monitors, and other passengers should understand that the driver is in charge of the bus.*

V. MAINTENANCE AND SERVICE PERSONNEL

In many situations, the use of a school-system-operated maintenance garage is cost-effective.

1. Staffing. The garage staff may consist of only one driver-mechanic or of many mechanics, helpers, and servicemen, depending on the size of the operation. The type of service rendered by the garage staff may range from lubrication, tire work, simple repairs, and washing, to major overhauls and body work of all types. Whatever type of service is required, each mechanic and other maintenance or service personnel should be thoroughly familiar with the equipment which they are servicing. Moreover, they should be safety- and maintenance-conscious and have high standards of workmanship. Maintenance and service personnel should be skilled in the art of planned maintenance. This involves making minor repairs and adjustments which might develop into major difficulties if left unattended, thereby necessitating extensive and expensive repairs.

   The staffing for school-system-operated garages varies widely. However, a staffing pattern frequently used is the following:

   a. For a fleet of 10 buses, one full-time mechanic capable of completing in a competent manner all necessary repair work, including major overhauls.

   b. For a fleet of from 10 to 20 buses, one full-time mechanic and one assistant mechanic capable of competently assisting with repair work and taking full responsibility for lubrication, tire repairs, washing the vehicle, and comparable tasks.

   c. For a fleet of more than 20 buses, a competent mechanic for approximately 15 to 18 buses, assisted by one helper for each two mechanics may be considered, as determined by the head mechanic or supervisor of transportation.

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*For additional information on student management, see "School Bus Patrols" (1965), available from American Automobile Association, Washington, D.C. 20006.

2. Instructional Program for Maintenance and Service Personnel.

   a. The school system should develop and make available to maintenance and service personnel the required maintenance and service publications for the equipment being serviced.

   b. The school system should arrange for pre-service and in-service training for maintenance and service personnel at regular intervals. They should also require or encourage maintenance personnel to attend state-sponsored workshops or training institutes. The training program should include, but should not necessarily be limited to the following subjects.

      1. Preventive maintenance and other maintenance procedures.

      2. Repair procedures for each type of school bus in the district and its special equipment.

      3. Servicing procedures for equipment.

      4. How to perform inspections of the vehicle and its equipment.

      5. How to remove or otherwise recover the vehicle which has been involved in an accident or road failure.

      6. How to complete necessary maintenance records.

      7. Planning and forecasting the supply of parts and other equipment.

VI. PROCEDURES

1. Policy. Both the state department of education and the local school system should have a clear, concise, unambiguous policy concerning who is eligible for transportation on school buses owned or contracted for by the state or local school district, and the conditions under which these students will be transported. Following are examples of the subjects that should be treated in the policy document.

   a. Procurement of equipment and supplies, maintenance and inspection, and period over which equipment will be depreciated.

b. Driver recruitment, selection, instruction, placement, and supervision.

c. Contractor recruitment, selection, instruction, payment, and supervision.

d. Determination of areas in which the school will provide transportation services.

e. Effective principles of routing, establishing stops, and scheduling buses.

f. Use of special lighting and signaling equipment for school buses. Alternately flashing red signal lamps both front and rear shall be used only when the bus is stopped for the purpose of taking on or discharging passengers.* Alternately flashing amber lamps may be used to warn motorists that the bus is about to stop to take on or to discharge passengers. When a stop arm is used on a school bus, its size, shape, and color should be uniform throughout the nation and it should be operated simultaneously with the flashing red signal lamps.

g. Policy with regard to standees, the length of time students will be permitted to ride the bus each day, and the type of supervision and educational experience that is to be provided to students while they are on the bus and upon their arrival at school prior to the time classes begin and while waiting for their buses following the end of classes. Each occupant of the school bus should be properly seated; no standees should be permitted. This is the goal toward which school systems should strive. This goal can be achieved with a minimum of additional expense by restudying the entire transportation operation and making maximum use of existing resources.

h. Policy with regard to the transportation of non-public school students.

i. Policy with regard to the transportation and supervision of exceptional students requiring special care. Adult monitors should be used to supervise the loading, transportation, and unloading of these students.

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*State legislatures, the National Committee on Uniform Traffic Laws and Ordinances (NCUTLO), and the National Highway Safety Bureau (NHSB), should adopt appropriate measures to require drivers to stop for a stopped school bus that is displaying alternately flashing red lamps, and to remain stopped until said alternately flashing red lamps are no longer activated.

j. How to evaluate the school transportation operation and how frequently this should be done. Included here also should be a discussion of the individuals and groups who can assist in the evaluation process.

2. School Site Selection and Plant Planning. In the selection of school sites, consideration should be given to the safety of students riding school buses. School buses will be required to utilize the roads in and around the school site, plus public roadways leading into and from the school area. High density traffic flow near school exits and entrances due to the proximity of heavily traveled thoroughfares, frequent heavy commercial traffic, or massive commuter traffic from industrial plants should be avoided. Proper site selection and plant planning for improved school transportation is extremely important. (See Appendix G.)

NOTE: The original source of this material was a publication of the Office of Pupil Transportation, New Jersey State Department of Education, Trenton.

At Appendix H is an evaluation sheet that may be used to evaluate school bus driveways in the vicinity of the school.

3. Routing and Scheduling. In establishing routes to serve pupils in a particular area adequately, it has been found advisable first to procure a map of the area served by a particular school or school system. On such a map, information on road conditions, railroad crossings, and other factors which might affect the particular operation is recorded along with locations of homes and the number of school age children at each. (Recommended procedures for school bus drivers at railroad crossings appear at Appendix I.) The area is then surveyed by school transportation personnel, and satisfactory school bus stops are identified in accordance with students' locations, and along streets and highways where buses can travel with the least amount of risk. The number of students to be transported and the distance to be traveled are primary factors in allocating equipment for a particular area. Then, students can be assigned to specific stops according to the distances it would be necessary for them to walk, according to grade level, and according to the school attended. Special attention must be given to the handicapped.

Routes should be set up on a "shoe-string" or "spoke" basis when feasible. A "shoe-string" or "spoke" route is one which provides for the first pupil pick-up at the point farthest from the schoolhouse and then proceeds as directly as possible to the schoolhouse. In general, the larger the district, the easier it is to organize routes on the "spoke" basis.

The advantage of the "spoke" route is that it holds to a minimum the number of miles a pupil must ride in the bus. On a pure "spoke" route a pupil will not ride in the bus a greater distance than the distance from the pupil's home to the school. The "spoke" route is the most economical if the driver of the bus lives in the vicinity of the first pupil pick-up and works in or near the attendance center during the day.

In certain situations, it may be more efficient to use "circular" or "loop" routes. With this type of route, the first passenger who boards the bus in the morning should be the first one to disembark in the evening.

Re-tracing routes should be avoided whenever possible. An exception is when students would be subjected to greater than ordinary risk when crossing the road after alighting from the bus. In these instances, re-tracing the route will eliminate the need for the student to cross the roadway.

Short distances often permit one bus to transport more than one load of pupils. This "double routing" or multiple load service, however, requires careful planning, including school scheduling.

An emergency route should be established for each regular route and a copy of the emergency route should be given to the patrons before the school term begins. When weather or road conditions dictate that is is not safe to travel on other than hard-surfaced roads, an announcement can be made by radio or other means that the "emergency" route will be used on that particular day or days. The patrons can then arrange to have their children meet the bus at a designated point.

Once routes have been tentatively designed from the map, a survey should be conducted by the school transportation supervisor in person so that he may observe any factors which might indicate a route change. After this survey, a time study should be made by driving over the route in the same equipment that will be used in the actual operation. The driver(s) who will operate over the route should regard the trip as a "dry run": all scheduled stops should be made; "live" and "dead" mileage should be recorded; distance and time between stops should be indicated, etc. These data, if obtained accurately, will permit the development of a schedule which probably will need little revision once it is placed into effect. The schedule as finally established should allow the driver enough time to operate in a safe manner. Allowances should be made for inclement weather conditions. In certain localities, it may be feasible to plan alternative routes in the event of road or bridge washouts and the

like. After the route has been definitely established, a map of the route and schedule, showing individual stops, should be posted in the bus for the information of substitute drivers.

Each request for new or additional service should be investigated thoroughly before making a change. A glance at a map or the use of recall is a poor substitute for direct observation; personal investigation often reveals characteristics about the area that would make a change in service unsatisfactory until certain conditions were corrected.

It should be remembered that the school bus, when operating on thoroughfares where relatively high speeds or high traffic volume prevail, presents a hazard when stopped. If adequate secondary roads are available, it is usually unwise for buses to carry, take on, or discharge passengers on main arteries. Lacking adequate secondary roads, only a minimum number of stops should be made along main traffic arteries. Each stop should be established only after thorough investigation has revealed the location to be the most desirable in the area. Some districts have built easements for buses to use, while others have instructed their drivers to take their vehicles completely off the road and onto the shoulder or berm prior to loading or unloading when this can be done safely.

When crossing or entering main thoroughfares, it is recommended that the bus driver do so, as often as is practicable, at intersections where protection is afforded by traffic signs or signals.

It is considered poor practice when using a main traffic artery to negotiate a "U turn," despite the fact that the road may be a divided highway with provisions for such turns. Where the division or median is too narrow to accommodate the length of the bus, the projection of the rear of the vehicle into the inside traffic lane as the driver awaits an opportunity to enter the traffic stream has been found to create traffic interference. Further, it is desirable to eliminate, insofar as possible, the necessity to turn the bus by backing; admittedly a bad practice with any vehicle, the dangers are increased with a long-wheelbased vehicle such as a school bus.

Since motorists are required to stop not less than a prescribed distance from a bus which is stopped for the purpose of taking on or discharging passengers, stops should not be over the crest of a hill where the sight distance of the approaching motorist will not allow him to bring his vehicle to a stop at the prescribed distance from the bus; neither should stops be established around curves. Moreover, stops should be avoided on upgrades and downgrades of severe inclination, because the motorist may not be able to

stop in time. While the motorist is supposed to have his vehicle under control at all times, it is best to anticipate the worst.

When stopping on the roadway, the driver should warn the motorist by reducing speed well before the stop and by using the special warning and brake lamps with which the school bus is equipped. No stops should be sudden since every driver should know the route thoroughly; an exception, of course, would be an emergency situation. It also is recommended that stops be placed to avoid unnecessary disruptions to the normal flow of traffic. When traffic is relatively heavy, stopping the bus spasmodically often results in temporary traffic congestion. This situation is worsened in metropolitan areas where school hours frequently coincide with those of industrial and business employees.

School transportation supervisors are encouraged to utilize the services of the state and local police and the traffic engineering personnel of the state or local roads department when planning school bus routes and stops.

Each time an existing route is revised, and each time additional stops are initiated, the bus schedule should be adjusted accordingly. Only after this procedure has been followed should an actual change be put into effect.

Another aid to safe transportation is that of establishing stops off heavily traveled thoroughfares. By looping around one or more blocks, the driver can usually load or unload his precious cargo without seriously interrupting traffic. Moreover, such a practice removes many students from the immediate vicinity of heavily traveled thoroughfares. By such thorough planning, a minimum number of students will have to cross at busy intersections. Also, stops should be established, whenever possible, at midblock in urban areas so that approaching traffic will be able to negotiate a turn or cross the intersection and thereby clear the intersection for other traffic.

Generally, the number of students boarding a bus at a particular stop is not a serious problem. However, care should be exercised to assure that not too many pupils board the bus at any one stop or at any one time, because a long stop can easily congest normal traffic. More important, large numbers of children waiting and playing alongside the highway without supervision are a hazard.

Each school should have a loading and unloading dock or area, rather than discharge passengers onto the street. All other traffic should be prohibited in the loading and unloading area. At large consolidated schools, where buses may number from ten to forty

or fifty or more, it is apparent that even with off-street docks or areas, traffic near the school will be congested at certain times of the day; therefore, these large physical plants should try to construct an interior road network on the school grounds, thus permitting buses to leave from one of several exits depending upon their ultimate destinations. Such an arrangement usually improves the flow of traffic in the vicinity of larger schools. Generally, buses should be designated as "expresses" or "locals". Buses traveling the greatest distances should have priority in departing from the school grounds to permit a minimum of interruption to their schedules; otherwise, they would have to stop behind "locals" which would precede them out of the school grounds and onto the highway.

4. Maintenance and Inspection of Equipment. Planned maintenance involves making minor repairs and adjustments which, if not done, might develop into major difficulties, thereby necessitating extensive and expensive repairs. The foremost objective of a planned maintenance program is keeping the vehicle in safe operating condition. Preventing road failures, maintaining the vehicle in efficient operating condition, lowering maintenance costs by reducing the need for major repairs or overhaul, and preserving the life of all components of the vehicle are still additional objectives of a planned maintenance program.

   In addition to being the heart of an effective maintenance program, inspection is one of the greatest safety factors in school transportation operation. Too often, it has meant nothing more than a formal canvass of the vehicle's interior and exterior features. Actually, each driver should be his vehicle's most severe critic, for no one knows more about it than he does. Other individuals, too, can help assure that the vehicle will remain in top operating condition – school bus patrol members, adult monitors, members of the faculty and administrative staff, the school transportation supervisor, the owner of the equipment (in the case of a contract operation), and the shop foreman and other maintenance and service personnel. Although they may seem minor, reports of cracked or broken windows, loose or torn seats, and the like are quite necessary to effective maintenance.

   School buses should be inspected not less than twice annually by the state agency having responsibility for vehicle inspection. Buses may be taken to authorized inspection stations at specific intervals, or teams of qualified, authorized personnel may travel throughout the state to inspect the equipment at or near its point of operation.

   Large school bus fleets having appropriate facilities and equipment, and qualified mechanics, may be authorized by the state to conduct periodic inspection of their own school buses.

5. Records

a. Accident Records. The following information should be included on all school bus accident report forms:

1. A description, preferably using diagrams, of the damage to each vehicle in addition to estimates of damage costs.

2. A description, using a diagram, of all personal injuries in addition to narrative explanations.

3. A list of passengers and witnesses.

4. A complete description of the drivers of each vehicle involved including name, date of birth, sex, years of driving experience, license number, and occupation. In addition, each driver should be asked to list any limiting physical characteristic he might have, including the wearing of glasses or a hearing aid, heart trouble, or respiratory ailments.

5. Follow-up information, such as the actual cost of repairs should be added to the accident report wherever it is filed, i.e., in federal, state or local offices, so that the record of the accident is complete. Other pertinent information relating to the accident that should be added later includes:

a) Disposition of any litigation.

b) Disposition of any summonses.

c) Net effects of all personal injuries sustained, including medical care given, physician's fees, hospital expenses, etc.

d) Amount of property damage other than to vehicles involved.

e) Any actions taken against the school bus driver, e.g., suspension or dismissal.

f) A summation of the driver's total accident record so that each completed report form will contain a listing of the total number of accidents that the driver has had.

b. Personnel Records. Of major importance here are the data compiled and maintained on the driver. Following are the types of information which each school system should maintain on its drivers. All such information should be maintained by age and sex of driver.

1. Number employed – the actual number of drivers employed as regular or substitute drivers for defined school buses on defined school bus routes. This information should indicate whether driver is employed full-time or part-time.

2. Miles driven – actual mileage driven on defined school bus trips.

3. Route assignments – any characteristics of a route constituting a defined school bus trip which limits the driver who may be assigned to that route.

4. Average daily trips – total number of trips driven over a given time period divided by the number of school days in that period.

5. Instruction during pre-employment and post-employment. Here, information should be recorded with regard to the number of hours of classroom instruction and the number of hours of practice driving instruction. Outlines of the material presented during this instruction should be retained for research purposes.

6. Experience – time spent driving school buses or other vehicles. Here, it is desirable to have information on the number of years the individual has driven school buses, and also the number of years of experience he has had in driving commercial vehicles of the bus or truck type.

7. Driving record, including all violations and accidents whether chargeable or not.

8. Previous occupation and, for part-time drivers, current occupation.

c. Maintenance Records. The system of maintenance records should be tailored to the requirements of the individual school transportation system. The number of reports and records needed will depend upon the size of the operation and the number of persons associated with it. Preparation

and maintenance of any record should be justified by the use made of it. No record should be kept which does not contribute directly to the efficient management of the school transportation operation. Following are examples of the general classifications of records that each school district should maintain:

1. Records on condition of each piece of equipment.

2. Records of repairs and service performed.

3. Parts used and labor costs for specified work.

4. The cost of each bus.

5. The cost of the entire school bus fleet.

d. Cost Records (to include all costs directly attributable to the transportation of eligible students on school buses on educationally-related trips).

1. Total expenditures.

2. Driver costs (including recruitment, selection, instruction, fringe benefits, and salary costs).

3. Bus cost (initial cost, including installation of special equipment).

4. Bus maintenance costs (expenditure for all bus supplies, repairs, and routine service, including inspections, except those which arise directly as a result of an accident. These will be included in e below.

5. Cost of accidents, including bus repairs, legal settlements, increased insurance premiums, and post-accident inspection costs.

6. Indirect costs (all those costs not included in above categories, e.g., all costs associated with those who supervise the school transportation operation, including payment of adult monitors when these persons are used).

6. Emergency Procedures. Each school district should have a pre-emergency plan. This plan should be carefully thought through and developed in cooperation with all those whose services would be required in the event of various types of

emergencies. The school transportation supervisor, school administrators, teachers, drivers, maintenance and service personnel, students, and others should be instructed in the procedures to be followed in the event of the contingencies provided for in the plan.

Following are examples of the contingencies that should be planned for:

a. Accident. Here the plan should spell out precisely what is to be done, e.g., prevention of further accidents by placing flares or other signals at the required distances to the front and rear of the accident site; evacuation and control of students; how to evaluate the need for medical assistance and how to obtain such assistance; how to get help from the police, the fire department, and the garage; and the proper post-accident procedures with regard to the collection and recording of data and the procedures with regard to the collection and recording of data and the preparation of the required reports. An operational plan to provide two-way communication with parents and/or guardians is imperative.

b. Sudden Disability of Driver. Procedures for handling situations resulting in the fatal injury or disability of the bus driver should be established and communicated to pupil personnel.

c. Road Failure. Here the pre-emergency plan should cover the procedure for securing the bus, disposition and control of the passengers, diagnosing the cause(s) of the road failure, notification of school officials, securing alternate equipment, and repair and recovery of the disabled school bus.

d. Inclement Weather Conditions. The pre-emergency plan should provide instruction in when the schools are to be closed and when the schools are to be closed early; the person responsible for making these decisions; how the decisions are to be relayed to parents, students, school officials and staff (including teachers and cafeteria manager), drivers, contractors, maintenance and service personnel, the news media, and others. Other natural phenomena that might affect the school bus operation should also be included in the plan under this general heading, e.g., floods, hurricanes, and tornadoes.

e. Other Types of Emergency Situations. The pre-emergency plan should cover such conditions and events as civil defense drills; strikes by school staff, teachers, drivers, or contractors; and road or bridge washouts and landslides that might block school bus routes. Copies of the pre-emergency plan should be carried in each bus. (See Appendix F for Instructions for Conducting Emergency Exit Drills.)

7. Communication. In the operation of a school transportation system, it is necessary to keep those who are in charge of the operation, as well as the pupils' parents and the pupils themselves, informed regarding the operational procedures. The school system must ensure that the channels of communication are set up in such a way that any information that should be known about its transportation system and services can be disseminated speedily and effectively to reach everyone concerned. The school system must also ensure that all inquiries, requests, suggestions, and recommendations are given prompt and appropriate attention and that they are handled efficiently.

Some of the ways information regarding school bus operations can be disseminated satisfactorily and examples of how each of these may be used to advantage are:

Method for Dissemination of Information	Examples of Purposes for Which Used
Bulletins	To explain the school system's transportation policy to school administrators, teachers, drivers, parents, students, and others associated with the operation.
Meetings	To provide an opportunity for those associated with the school transportation operation to share their views regarding more effective operation.
Public press	To inform parents of policy changes; route, stop, and schedule changes; and of the safety record of the operation.
Conferences	To discuss with each driver solutions to disciplinary problems that arise, new or revised policy decisions that affect drivers, contractors, etc.
Circular letters	To inform parents of new routes that are planned or of changes that are to be made in routes, stops, and schedules.

Method for Dissemination of Information	Examples of Purposes for Which Used
Telephone calls	To provide quick contact between bus drivers and the school, or between parents and the school in the event of emergency situations.
Radio, Television	To inform the public of the procedures schools will follow in cases of severe weather conditions or other natural phenomena.
Letters	To reply to inquiries made by parents and others regarding transportation policy and procedure.
Public address system	To instruct students who are assembled to enter the bus regarding rules and regulations they are to follow while waiting for and while riding in the bus.

VII. EVALUATION OF THE SCHOOL TRANSPORTATION OPERATION

Each school district should have a plan for evaluating its school transportation operation. There are several criteria which can be applied to obtain some estimates of the operation's effectiveness. These criteria relate to such factors as safety, efficiency, and economy.

1. Safety criteria include, but are not limited to:

    a. Injuries to passengers, the driver, and other highway users.

    b. The frequency and severity of property damage accidents in which buses are involved.

    c. The frequency and severity of moving traffic violations for which drivers are cited.

    d. The frequency and nature of complaints from parents, the motoring public, school administrators, and the passengers themselves.

    e. The frequency and nature of road failures and other emergency situations in which the buses are involved.

2. Efficiency and economy criteria include, but are not limited to:

    a. The frequency with which trips are completed on schedule.

b. The nature and frequency of road failures.

c. The nature and frequency of complaints received from drivers concerning the operation.

d. The number of vehicles used to transport students when viewed against the geographic size of the school system and pupil population density.

e. The number of routes and length of routes when viewed against the geographic size of the school system and the number of students transported.

f. The amount of mileage operated without passengers.

g. The number of stops.

h. The amount of time students spend on the bus.

i. The educational experiences provided the students while on the school bus.

j. The amount of time students spend at the school before classes begin and after classes end and the educational experiences provided during these periods.

It is not possible to separate fully the safety criteria from those which relate to efficiency and economy; hence, the duplication of some items in the preceding two paragraphs.

Using the factors identified in the preceding paragraphs as a starting point, school administrators are encouraged to develop their own methods for evaluating school transportation operations in their districts.

Some information to assist the school administrators toward this end may be found in the fourth edition of "Evaluative Criteria".*

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*National Study of Secondary School Evaluation. "Evaluate Criteria", 4th edition, 1969. Published by the National Study of Secondary School Evaluation, 1785 Massachusetts Avenue, N.W., Washington, D.C. 20036. See Section 2 for suggestions for use by school staffs and by visiting committees, and Section 9 G for selected characteristics of transportation service.

See also: "School Safety Education Checklist". Revised 1967. National Education Association, Washington, D.C. 20036. Price $1.

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Appendix A

ACTIONS TO BE TAKEN DURING AND FOLLOWING OBSERVATION OF SCHOOL BUS ROUTES

When the transportation supervisor rides the school bus for purposes of observation, here are some of the actions that should be taken during and following this observation:

1. Introduce himself to students and driver.

2. Record time first student is taken on the bus and the time bus arrives at school. In the afternoon, record the time of departure from school and the time last student is discharged from the bus.

3. Check to see whether driver is wearing glasses or a hearing aid if either is required.

4. Check to see if driver has his chauffeur's license or his school bus driver's license (if there is such a special license in the state or local school system).

5. Does driver follow the prescribed route?

6. Does driver stop only at authorized stops?

7. Does driver operate vehicle in accordance with prescribed regulations?

8. What is the apparent status of driver-student rapport?

9. What are the conditions at the school? Is there a satisfactory area at which to unload and load the students? Is supervision in evidence?

10. What is the apparent status of student discipline?

11. What hazardous road conditions were noted?

12. Note the nature, frequency, and locations of violations of the school bus stop law.

13. Note the identities of students who do not follow prescribed procedure when boarding or alighting from the bus.

14. Observe apparent condition of driver.

15. Observe condition of bus, e.g., cleanliness, tires, windows, emergency exit(s), first aid kits, fire extinguisher, seats, etc.

16. Review bus record indicating preventive maintenance servicing, etc.

17. Note driver attitude toward other motorists and pedestrians.

Following completion of observation, report deficiencies in student behavior to school administrator (in writing); arrange to meet with driver, school transportation supervisor, and others, as appropriate, to discuss deficiencies noted in the operation and recommendations for their correction.

Appendix B

SCHOOL BUS DRIVER APPLICATION
(Example of a form that may be used)

Name_____Age____Male____Female_____

Present address_____ Phone No._____

How long have you lived at present address?_____

Last previous address_____

How long did you live there?_____ Social Security No._____

Date of birth_____Place _____

Marital status: Single_____Married_____Widowed_____

Do you have any physical impairments?_____

Years of formal education completed: Grade School__H.S.__College____

Current driver's license: Operator's_____ Chauffeur's_____
Other_____Number_____State_____

Have you had any type of vehicle accident in the last 3 years? Yes__No___

_____

If yes, give approximate dates

Have you been arrested for a moving traffic violation in the last 3 years?
Yes__ No_

_____

If yes, give approximate dates

Has your driver's license ever been suspended or revoked? Yes____No___

Do you use intoxicants? Yes____No____To what degree_____

Do you use drugs? Yes____No____If yes, to what degree_____

To the best of my knowledge the answers to the above are full and correct.

Date_____Signature_____

* * * * * *

REFERENCES

Do not use relatives. Include at least one businessman, and one professional person.

	NAME	ADDRESS	TEL.	OCCUPATION
1.				
2.				
3.				
4.				
5.				

Appendix C

REQUEST FOR DRIVING RECORD
(Example of a form that may be used)

To: Driver Services Division - Motor Vehicle Department

Address_____Date_____

The following individual has applied for a position as a school bus driver.

Please Type or Print

Name Date of Birth

_____

First Middle Last Month Day Year

Social Security No._____

Last License Number State Expiration Date

_____ _____ _____

List moving violations, accidents, probations, suspensions, revocations.

_____
_____
_____
_____
_____
_____

Please return this form to: _____

_____

School Address

_____

City State

Appendix D

SCHOOL BUS DRIVER APPLICANT'S INTERVIEW CHECKLIST
(Example of a form that may be used)

Name_____

Age_____

Date_____

Social Security No._____

1. Driving experience: Car_____Truck_____

   School Bus_____Other_____

2. Number of jobs held in last 3 years_____

3. Are reasons for leaving logical? Yes___ No___

4. Attitude toward former employees Good__ Poor__

5. Any accidents? Yes___ No___

6. Is explanation logical? Yes___ No___

7. Does applicant "talk big" or act "cocky"? Yes___ No___

8. Any charge accounts? Yes___ No___

9. Any bank accounts? Yes___ No___

10. Any insurance? Yes___ No___

11. Married? Yes___ No___

12. Any family? Yes___ No___

13. Ever been arrested? Yes___ No___

14. Alert and responsive to questions? Yes___ No___

15. Appears intelligent High___Average___Low___

16. Personal appearance Good___Fair___Poor___

Remarks: _____
_____
_____
_____

Appendix E

SCHOOL BUS DRIVER PHYSICAL EXAMINATION FORM
(Example of a form that may be used)

Name_____Address_____

Have you ever had: 1. Heart trouble? _____ 2. Epilepsy? _____

3. Fainting spells? _____ 4. Diabetes? _____ 5. Tuberculosis? _____

If "yes" to any of above, explain: _____

_____

Signature of driver_____

Visual acuity* (if individual wears glasses, test and record acuity with and without glasses.)

Without glasses: R 20/ _____ L 20/ _____ B 20/ _____

With glasses: R 20/ _____ L 20/ _____ B 20/ _____

Field of vision_____degrees Depth perception_____

Color perception_____Muscular anomalies_____

Hearing without hearing aid: Right_____Left_____

Heart sounds: At apex murmur_____At base murmur_____

Rhythm_____Enlargement indicated_____

Pulse: Rate_____Regularity_____

Blood pressure: Systolic_____Diastolic_____

Condition of arteries: Sclerosis_____Pulsations_____

Lungs: Rales_____Breath Sounds_____Chest X-ray_____

Weight_____Height_____

Extremities: Deformities_____

Routine office urinalysis_____

Evidence of infectious disease, mental disability, emotional instability, or drug addiction_____

Remarks regarding any condition not within normal limits_____

_____

After examination I find_____
is ☐is not ☐free from any ailment, disease, or defect that might affect his or her ability to safely operate a school bus.

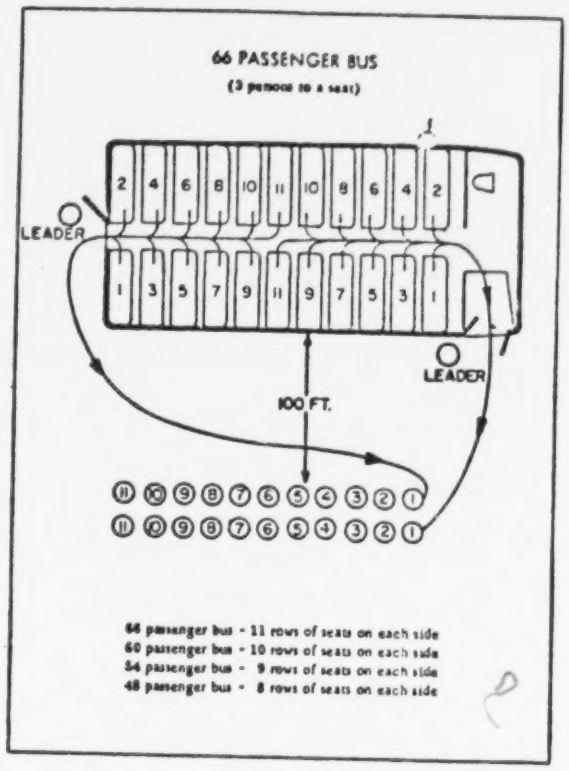
Date_____ _____
Licensed Physician
_____

*Visual examination may be performed by either a licensed physician or a licensed optometrist.

Appendix F

INSTRUCTIONS FOR CONDUCTING EMERGENCY EXIT DRILLS

Due to the increased number of pupils being transported in present-day traffic, and the ever-increasing number of accidents on the highways there is a need to instruct pupils to vacate a school bus in case of an emergency. In an emergency it is possible for children to jam the emergency door by all trying to get out of the door at the same time. In order to help avoid a situation of this type, schools should organize and conduct emergency exit drills for all students who ride school buses.


66 PASSENGER BUS
(3 persons to a seat)
LEADER
LEADER
100 FT.
66 passenger bus - 11 rows of seats on each side
60 passenger bus - 10 rows of seats on each side
54 passenger bus - 9 rows of seats on each side
48 passenger bus - 8 rows of seats on each side

There are several different drills:

1. Everyone exits through the rear emergency door.

2. Everyone exits through the front entrance door.

3. Front half exits through the front door and rear half exits through the rear door. (See diagram.)

There is possible danger (Drill 1) when a child jumps from the rear emergency door exit. It is possible to sprain an ankle, break a leg, or even be ruptured.

Reasons for actual emergency evacuation:

1. Fire or danger of fire. A bus should be stopped and evacuated immediately if the engine or any portion of the bus is on fire. Passengers should move a distance of 100 feet or more from the bus and remain until the driver of the bus has determined that no danger remains. Being near an existing fire and unable to move the bus away, or near the presence of gasoline or other combustible material should be considered as "danger of fire," and students should be evacuated.

2. Unsafe position. In the event that a bus is stopped due to accident, mechanical failure, road conditions, or human failure the driver must determine immediately whether it is safer for passengers to remain in the bus or to evacuate.

3. The driver must evacuate if:

   a. The final stopping point is in the path of any train or adjacent to any railroad tracks.

   b. The stopping position of the bus may change and increase the danger. If, for example, a bus should come to rest near a body of water or precipice where it could still move and go into the water or over a cliff, it should be evacuated. The driver should be certain that the evacuation is carried out in a manner which affords maximum safety for the children.

   c. The stopping of the bus is such that there is danger of collision. In normal traffic conditions, the bus should be visible for a distance of 300 feet or more. A position over a hill or around a curve where such visibility does not exist should be considered reason for evacuation.

Important factors pertaining to school bus evacuation drills:

1. Safety of children is of the utmost importance and must be considered first.

2. All drills should be supervised by the principal or by persons assigned by him to act in a supervisory capacity.

3. The bus driver is responsible for the safety of the pupils; however, in an emergency the driver might be incapacitated so that he would not be able to direct the pupil emergency evacuation. School patrol members, appointed pupils, or adult monitors should direct these drills. It is important to have regular substitutes available

Pupil qualifications:
a. More mature students
b. Good citizens
c. Live near end of bus line

Pupil should know how to:
a. Turn off ignition switch
b. Set emergency brake
c. Summon help when and where needed
d. Use fire axe or kick out windows
e. Set flags and flares
f. Open and close doors, account for all pupils passing his station
g. Help small children off bus
h. Perform other assignments

4. Written consent from parent should be obtained before assigning a pupil as a leader.

5. "Emergency drills" for school buses should be organized in a manner similar to fire drills held regularly in schools. School bus drills should be held more often during fall and spring months, perferably when bus arrives at the school building with the pupils.

6. Drills should be held on school property and not on bus route.

7. Types of bus drills held should be varied.

8. Drivers should stay in bus during evacuation drills. Be sure that the emergency brake is set, ignition off, and transmission in gear.

9. Do not permit children to take lunch boxes, books, etc., with them when they leave the bus – getting the child off safely in the shortest time possible and in an orderly fashion is the objective of a school bus evacuation drill.

10. The pupils should go to a distance of at least 100 feet from the bus in an "emergency drill" and remain there in a group until given further directions by the leader.

11. All children should be given an opportunity to participate, including those children who only ride a bus on special trips.

12. Each pupil should be instructed in the proper safety precautions while riding the bus and in drill procedure.

13. Instruct students in how and where to get help. Instructions and telephone numbers should be posted or otherwise carried in the school buses.

Appendix G

PLANNING SCHOOL SITES FOR SCHOOL BUS SAFETY

1. In the selection of school sites, major consideration should be given to the safety of pupils riding school buses. These vehicles will be forced to utilize the roads in and around the school site plus public highways leading into the school area. High density traffic flow near school exits and entrances due to the proximity of freeways, periodic commercial traffic, or massive commuter traffic from industrial plants should be avoided. It must be recognized in many cases that the area designated for the school site has been selected prior to the hiring of an architect. It is suggested, therefore, that this information be issued to boards of education and municipal planning authorities alerting them to the dangers inherent within the process of site selection. It is also suggested that boards of education discuss the selection with the superintendents of schools, traffic engineers, and the state office of School Plant Planning and solicit their help in evaluating possible school sites.

2. The location of the school plant on a site should be determined so as to provide safe means of entrance and egress for all pupils. When boards of education are considering school sites, the state, county, and local roads servicing the area should have a minimum 30-foot paved width where loading and unloading is contemplated off the main thoroughfare. If it is necessary to load or unload students on the main thoroughfare in front of the school, at least a 40-foot-wide paved road should be provided.

3. It is possible that boards of education may have land donated to them that could be classified as unsafe for busing due to its traffic density, type of terrain, or lack of safe loading and unloading facilities. The cost of eliminating these unsafe conditions may exceed the purchase price of a more desirable parcel of property. In such instances it might be wiser not to accept the donated land but attempt to secure a site that would provide for the safety of students that would have to be transported to the school for years to come.

4. All school bus traffic should be considered as one-way traffic flow, preferably with the service door side of the bus always next to the loading and unloading zone.

5. Wherever possible, separation should be maintained between bus traffic and regular flow as constituted by parent, pupil, service, teacher, and administrative traffic.

6. Whenever possible, roads should not be constructed that completely encircle a school. Areas that students must cross to engage in outside activities should be free of all vehicular traffic.

7. All school bus roads entering into or exiting from main arteries should have a 50- to 100-foot radius turn on inner edge of pavement. Within the school site, roads should have at least a 60-foot radius on inner edge of pavement on all curves. At least a 50-foot tangent section should be provided between reverse curves. The reason is self-evident when we understand that school buses are approximately eight feet wide and thirty-five feet long. In order to minimize driveway entrance and exit widths, island construction may be required. Driveway openings must conform to local requirements, and in particular, driveway openings on state highways should be approved by the state highway department.

8. It is recommended that curbing, with suitable drainage, be constructed on all roads utilized by the school bus within the school site. A minimum of 30 feet should be maintained for one-way traffic and 36 feet for two-way traffic. Roads should be wider on all curves.

9. It is desirable to separate student, teacher, administrative, and visitor and parent parking from the loading zone utilized by the school bus.

10. In the construction of parking areas, it might be advantageous if only the visitor parking area were located in close proximity to the school. Care should be exercised in the placement of these areas to preclude the visitor from crossing the school bus traffic pattern.

11. Architects, prior to the designing and laying-out of roads and parking lots, should consult with the school administration on the following items:

    A. Total number of pupils and school personnel.

    B. Number of present and projected pupils to be transported.

    C. Number of buses.

    D. Method of transportation.

        a. Publicly-owned

        b. Contract

    E. Type of schedule.

        a. Staggered

        b. Single (one opening and closing time).

    F. Extra-curricular activities that would necessitate use of school buses.

12. Where buses are parked on the school grounds, consideration should be given to the reflective surfaces of windows, doors, and windshields in order to prevent undue glare from these parked vehicles being transmitted to the students in the classroom.

13. Attention should be given in planning school bus parking and loading areas so as to encourage diagonal parking. Positioning of buses in slant formation provides the safest method of loading and leaving school grounds. Where this is not possible, bumper-to-bumper positioning of buses would be the next best solution. Either type of parking should exclude the necessity for backing the school bus.

14. In the construction of sidewalks for students walking to school, consideration should be given to the elimination of crosswalks in front of buses.

15. In the analysis of many architects' plans for school buildings, bus canopies were included for consideration. In the majority of cases such units were not considered feasible for schools with large enrollments. Canopies are advantageous in schools where handicapped children are in attendance. Height of the canopy, obviously, should accommodate the highest school buses.

16. In the construction of curbs, where school buses will be utilized, consideration should be given to the performance specifications set forth by the state highway department.

17. In areas that will be constantly utilized by heavy-weight school buses, the type of pavement and base should be that specified by the state highway department.

18. All roads within the school site should be graded to avoid dips and hollows that would impair the vision of motorists using the roadways. It is suggested that a maximum standard of not more than a 5-percent grade be allowed for roads on school sites. At entrance and exit points a maximum grade of 2-percent should be adhered to.

19. Vehicular traffic should never be required to swing a blind corner on any school site.

20. In the planning of a school and the location of access and service roads, conditions should never be set up that would require school buses to be backed on the school premises.

21. All pupil loading and unloading areas should be provided for within the school site.

22. Wherever possible, parents should be assigned a separate student pickup point some distance from the school bus loading areas. Accident-inducing conditions are created by parents picking up and discharging students haphazardly in the area in front of and adjacent to the building. The condition is greatly increased during inclement weather.

23. In the provision of loading facilities, consideration should be given to separate areas especially designed for the handicapped and trainable students, including entrance ramps and handrails.

24. In the planning of all roads and loading areas, architects should take into consideration the fact that emergency vehicles must have access to the school at all times.

25. Care should be taken in the planting of trees and shrubbery on the school site so as not to obstruct the vision of the motorist.

26. Where necessary, traffic control devices should be provided to assist school traffic in entering the regular traffic flow.

Source: National Safety Council, "Fleet Safety Memo No. 59". Chicago, Illinois 60611.

Appendix H

EVALUATION CHECKLIST FOR SCHOOL BUS DRIVEWAYS
IN THE VICINITY OF THE SCHOOL

NAME OF THE SCHOOL:_____DATE_____

LOCATION OF THE SCHOOL:_____

	YES	NO	DOES NOT APPLY
1. School loading and unloading areas are provided within the school site.	___	___	_____
2. When loading and unloading of school children takes place on main thoroughfare in front of the school, the roadway has a minimum width of 40 feet of hard surface.	___	___	_____
3. The driveway leading to and from the loading and unloading area for school buses has a minimum width of 30 feet of paved surface.	___	___	_____
4. If diagonal parking is provided for buses in the loading and unloading area, a minimum width of 60 feet of paved surface is available.	___	___	_____
5. Parking for loading and unloading of children at school is bumper-to-bumper ( ) or diagonal ( ); in either case, the necessity for backing does not exist.	___	___	_____
6. The school bus is not required to back anywhere on school property.	___	___	_____
7. All school bus movement on the school grounds is one-way in a counter-clockwise direction.	___	___	_____
8. School bus traffic does not completely encircle the school building.	___	___	_____
9. The driver has proper sight distance at all points along the driveway.	___	___	_____
10. Crosswalks for students do not exist within the entrance to the school bus driveway.	___	___	_____

		YES	NO	DOES NOT APPLY
11.	Separation is maintained between school bus traffic and all other traffic such as parent, student, staff, and service personnel.	___	___	_____
12.	Vehicular pickup points for non-bus passengers are on separate driveway from that used by school buses.	___	___	_____
13.	Curbing and suitable drainage are provided along driveways used by school buses.	___	___	_____
14.	Curbing and driveway construction comply with state highway specifications.	___	___	_____
15.	At ingress and egress areas to the school there is a minimum radius on inner edge of driveway pavement of from 50 to 100 feet.	___	___	_____
16.	Within the school site there is a minimum radius on inner edge of driveway pavement of 60 feet.	___	___	_____
17.	Between reverse curves, at least a 50-foot tangent section is provided.	___	___	_____
18.	At ingress and egress points a maximum grade of 2-percent is adhered to.	___	___	_____
19.	A maximum grade of 5-percent is adhered to on the school bus driveway within the school site.	___	___	_____

NOTE: A "yes" answer for each of the items indicates a well-planned traffic pattern for school buses.

SIGNATURES:

Person making the report:_____

Supervisor of School Transportation:_____

NOTE: Most of the items included in this Evaluation Checklist are based on a 1966 Report of the Special Committee on School Plant Evaluation, "School Planning: Safe Transporting". Bureau of Pupil Transportation, Department of Education, Trenton, New Jersey 08652.

Appendix I

RECOMMENDED PROCEDURES FOR SCHOOL BUS DRIVERS AT RAILROAD GRADE CROSSINGS

A. General

1. The driver of any school bus, whether carrying passengers or not, must, before crossing a grade of any track or tracks of a railroad, bring his bus to a full and complete stop within not less than 15 feet or more than 50 feet from the rails nearest the front of the bus.

2. When drivers are making stops for railroad crossings, they shall carefully observe traffic and reduce speed, far enough in advance of stop, to avoid trapping other motorists in panic stops or rear-end collisions with the bus. (On multiple-lane roadways, no such stop shall be made in the center or left-hand lane.) When approaching a railroad grade crossing on multiple-lane roadways, drivers should strive to be in the right-hand lane when the stop for the crossing is made.

3. No special signs, signals, or flashers, designated only for use on school buses, shall be activated while the bus is stopped or is stopping for a railroad grade crossing.

4. The driver when stopped shall fully open the service door, and must, after the stop and while so stopped, listen and look in both directions along the track or tracks for approaching engines, trains, or cars. Upon resumption of motion, the operation of the service door shall be governed by local regulation.

5. If the view of the track or tracks for a distance of 1,000 feet in either direction is not clear or is obstructed in any way, no portion of the bus may be propelled onto the tracks until, by personal visual inspection, the driver has made certain that no train is approaching. In no instance may a signal indicating "All clear" be considered as conclusive or serve to abrogate this precaution. Stops should not be made between multiple tracks if, by doing so, the rear portion of the bus extends over another track.

6. Drivers shall, in every instance, cross in such gear as will not necessitate changing gears while traversing such crossing and shall not, under any circumstances, shift gears when bus is actually crossing tracks or railroad crossings.

7. In the event that a train has passed over the crossing, no bus driver shall drive his bus onto said track or tracks until such train has sufficiently cleared the crossing so that the driver is certain that no train, hidden by the first train, is approaching on adjacent track.

8. For improved vision and hearing, a window at the driver's left should be opened and all noisy equipment (fans, etc.) should be shut off until the bus has cleared the crossing.

B. At crossings controlled by signals only

1. In addition to the above, the driver of a school bus which has stopped at any railroad track or tracks at which there is in operation any flashing red lights and/or bell shall not proceed across such track or tracks unless by authorization from a law enforcement officer or train personnel. Such authorization does not relieve the driver of personal responsibility for a safe crossing.

2. In the event that switching operations, or stopped trains, delay the use of the crossing unnecessarily for frequent or extended periods of time, complaint should be made through proper channels to railroad management and traffic authorities.

C. At crossing controlled by crossing gate or barrier

1. No bus driver shall drive his bus through, around, or under any such crossing gate or barrier at a railroad crossing while such gate or barrier is closed or is being opened or closed.

2. The driver must never accept a lack of movement as indicating that the device is either in or out of order or not properly handled, but must always take a railroad grade crossing as a conclusive warning of danger and must not cross the tracks until he has conclusively ascertained that no train is approaching.

D. Weather conditions

During wet, stormy, or foggy weather, before placing part of the bus on the tracks, the driver must know conclusively that the crossing can be made in safety. Any use of flares, etc., in addition to warning signals or devices maintained at such railroad crossings, must be taken as an additional warning of danger.

E. Behavior of passengers

When any school bus must stop for any railroad track at grade, all passengers must be silent until crossing is completed. Such signal for silence shall be given by the driver in whatever manner he deems suitable.

Source: National Safety Council, "Fleet Safety Memo No. 58". Chicago, Illinois: The Council.

National Conference on School Transportation

NEA Education Center, Washington, D. C. May 4-7, 1970

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* A Committee authorized by the 1964 National Conference on School Transportation and elected by state directors of school transportation. Purpose of the Committee: to keep abreast of developments and to represent state education agencies in the planning of the 1970 National Conference.

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